UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/080,641	02/21/2002	Andreas N. Dorsel	10971150-2	9857

7590 09/16/2005

AGILENT TECHNOLOGIES, INC.
Legal Department, DL429
Intellectual Property Administration
P. O. Box 7599
Loveland, CO 80837-0599

EXAMINER	
WILDER, CYNTHIA B	

ART UNIT	PAPER NUMBER
1637	

DATE MAILED: 09/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/080,641	DORSEL ET AL.	
	Examiner	Art Unit	
	Cynthia B. Wilder, Ph.D.	1637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 June 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *32,33,36-38 and 43-52* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *32, 33, 36-38 and 43-52* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/27/2005 has been entered. Claims 32, 38, 43, 47, 48 have been amended. Claims 34-35 and 39-42 have been canceled. Claims 32, 33, 36-38, 43-52 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 32, 33, 38, 43, 44, 47-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peters (US 6,118,532, filing date March 30 1998) in view of Kaye (US 3,850,525, November 26, 1974) and Modell et al (US 6,826,422 B1, filing date January 11, 2000) and further in view of *In re Venner*, 262 F.2d 91, 95, 120 USPQ 193, 194 (CCPA 1958). Regarding claim 32, 33, 38, 43, 44, 47-50, Peters teaches an apparatus for determining light scattered by a sample, said apparatus comprising an adjustable detection angle detector system which as more than one detector (plurality of detectors) and a light source to provide an interrogating light source, wherein said light source is a laser (col. 2, lines 42-50 and col. 3, lines 66-67 to col. 4, lines 1-3). Peters teaches wherein the detector is a photomultiplier or photodiode (col. 3, lines 50-51). Peters teaches that the apparatus comprising an adjustable detection angle detector system whereby the plurality of detectors are utilized to allow for simultaneous measurements of a sample in a solution from a plurality of angles and allows for simple but accurate adjustments of the detector (col. 2, lines 30-56). Peters differs from the instant invention in that Peters does not expressly teach that the adjustable detection angle detector system detect different emitted light wavelength at the respective different detection angles. Kaye teaches an apparatus comprising: an interrogating light source, wherein said light source is a laser which is capable of generating multiple beams of light to detect emitted light at different wavelength or polarizations at different detection angles (see abstract; summary of invention beginning at col. 4 to col. 5 and figure 1). Kaye further teaches wherein the detector comprises a filter that filters out unwanted light and allows only the desired wavelength to be transmitted (col. 9, lines 26-61). Kaye teaches the apparatus allows for the simultaneous measurement of scattered light at different angles and different wavelengths which permits the simultaneous

determination of particle size and DNA content (col. 5, lines 44-62). Modell et al teach an apparatus similar to that of Kaye comprising an interrogating light source, adjustable angle detector system which is aligned with an emission filter that filters out light of an interrogating wavelength (col. 28, line 64 to col. 29, lines 1-16). Modell et al teach wherein more than one detector each comprises a filter. Neither Peters nor Kaye or Modell et al teach a processor as claimed. However, the Courts have established that merely using a computer to automate a known process does not by itself impart nonobviousness to the invention (see *In re Venner*, 262 F.2d 91, 95, 120 USPQ 193, 194 (CCPA 1958)). The Courts have established that if the difference between the prior art and the claimed invention is limited to descriptive material stored on or employed by a machine having no functionally related to the substrate, the descriptive material will not distinguish the invention from the prior art in terms of patentability. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to have included a processor to the apparatus of Peters in view of Kaye and Modell et al for storage and analysis of signals received from the apparatus based in Court ruling involving *In re Venner.*

Applicant's Traversal

5. Applicant traverses the rejection on the following grounds: Applicant summarizes the Examiner's rejection and asserts that first; the rejected claims are drawn to an apparatus for scanning arrays of multiple features of different biopolymeric moieties. Applicant submits that none of the cited references teach or suggest an apparatus capable of scanning biopolymeric arrays. Applicant states as such, fir at least this reason; the rejected claims are patentable over the cited references. Applicant states that second, the rejected claims are drawn to an apparatus

for scanning biopolymeric array, wherein the apparatus includes a processor which receives signal from the detector system and correlates then with respective array features. Applicant states that the Examiner notes that none of the cited reference teaches or suggests such a processor. Applicant states that nonetheless, the Examiner asserts that this element in itself does not distinguish over the prior art citing *In re Venner*. Applicant asserts however that the processor element provides distinct and significant functionality to the claimed invention. Applicant states that specifically the processor serves the function of analyzing the detector signals in such a way as to correlate them with distinct biopolymeric features that have been deposited on the array. Applicant states as the biopolymeric arrays can contain any number of different biopolymeric moieties and/or patters in which the biopolymeric are deposited, this feature imparts significant functionality to the claimed apparatus. Applicant states that since none of the cited references are drawn to a biopolymeric array scanner and such they would not function as intended with a processor as is claimed. Applicant states that as such the processor element of the claimed invention is not rendered obvious by the cited reference and for at least this reasons the claims invention is patentable over the cited references.

Examiner's Response

6. All of arguments have been thoroughly reviewed and considered: In response to Applicant's arguments that the rejected claims are drawn to an apparatus "for scanning arrays of multiple features of different biopolymeric moieties", it is noted that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In response

to Applicant's arguments that the rejected claims are drawn to an apparatus for scanning biopolymeric array, where the apparatus include a processor which receives signals from the detector system and correlates them with respective array features, it is noted that the limitation "for scanning biopolymeric arrays" is an intended used limitation. MPEP states that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In response to Applicant's arguments concerning the processor element, it is noted that the specification only teaches at paragraph 0051, that the programmable digital processor is a computer. The features that Applicant rely on "the processor functioning to analyze the detector signals in such as way to correlate them within distinct biopolymeric features that have been deposited on array", is noted supported by the specification or claims. MPEP states although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Applicants arguments are not sufficient to overcome the prior art rejection rejections noted above. Accordingly, the rejections are maintained.

Claim Rejections - 35 USC § 103

7. Claims 36, 37, 45, 46, 51 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peters in view of Kaye and Modell as previously applied above in view of Roustaei (US 6, 123, 261, Effective filing date May 5, 1997) and further in view of *In re Venner*, 262 F.2d 91, 95, 120 USPQ 193, 194 (CCPA 1958). Regarding claims 36, 37, 45, 46, 51 and 52,

Peters teaches an apparatus for determining light scattered by a sample, said apparatus comprising an adjustable detection angle detector system which as more than one detector (plurality of detectors) and a light source to provide an interrogating light source, wherein said light source is a laser (col. 2, lines 42-50 and col. 3, lines 66-67 to col. 4, lines 1-3). Peters teaches wherein the detector is a photomultiplier or photodiode (col. 3, lines 50-51). Peters teaches that the apparatus comprising an adjustable detection angle detector system whereby the plurality of detectors are utilized to allow for simultaneous measurements of a sample in a solution from a plurality of angles and allows for simple but accurate adjustments of the detector (col. 2, lines 30-56). Peters differs from the instant invention in that Peters does not expressly teach that the adjustable detection angle detector system comprising the plurality of detectors detect different emitted light wavelength at the respective different detection angles. Kaye teaches an apparatus comprising: an interrogating light source, wherein said light source is a laser which is capable of generating multiple beams of light to detect emitted light at different wavelength or polarizations at different detection angles (see abstract; summary of invention beginning at col. 4 to col. 5 and figure 1). Kaye further teaches wherein the detector comprises a filter that filters out unwanted light and allows only the desired wavelength to be transmitted (col. 9, lines 26-61). Kaye teaches the apparatus allows for the simultaneous measurement of scattered light at different angles and different wavelengths which permits the simultaneous determination of particle size and DNA content (col. 5, lines 44-62). Modell et al teach an apparatus similar to that of Kaye comprising an interrogating light source, adjustable angle detector system which is aligned with an emission filter that filters out light of an interrogating wavelength (col. 28, line 64 to col. 29, lines 1-16). Neither Peters nor Kaye or Modell et al

teach a processor as claimed. Likewise, the references do not teach a reader to read a code and a scanning system which scans the interrogating light. Roustaei et al teaches an optical scanning device system for reading and/or analyzing encoded information; said device may be build into a fixed scanning station or may be portable. Roustaei teaches that the device comprises a scanner, reading device and processor which functions to decode and read symbols having a wide range of features and processing said symbols (col. 3 to col. 5 and abstract). However, these features of a reader, scanner and processor, which are all involved in receiving, processing and storing signals from an apparatus does not by themselves impart nonobviousness to the invention. The Courts have established that merely using a computer to automate a known process does not by itself impart nonobviousness to the invention (see *In re Venner*, 262 F.2d 91, 95, 120 USPQ 193, 194 (CCPA 1958)). The Courts have established that if the difference between the prior art and the claimed invention is limited to descriptive material stored on or employed by a machine having no functionally related to the substrate, the descriptive material will not distinguish the invention from the prior art in terms of patentability. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to have included a scanner, reader and processor as taught by Roustaei to the apparatus of Peters in view of Kaye and Modell for analysis and storage of signals received from the apparatus based in Court ruling involving *In re Venner.*

Applicant's traversal

8. Applicant traverses the rejection on the following grounds: Applicant summarizes Applicant's arguments and asserts that the claims are drawn to an apparatus for scanning arrays of multiple features of different biopolymeric moieties and that none of the cited references teach

or suggest an apparatus capable of scanning biopolymeric arrays. Applicant states that as such, for at least this reason, the rejected are patentable over the cited reference. Applicant further states that the Applicant states Roustaei fails to teach or suggest a processor that receives signal from the detector system and correlates them with respective array features. Applicant states that the claimed processor element is specifically configured to correlate the scan data with the biopolymeric features on the scanned array and not for decoding scanned symbology as is the processor of Roustaei. Applicant states that incorporating the processor of the claimed invention into the apparatus of Roustaei would render Roustaei's apparatus inoperable. Finally, applicant states that claims 36, 45, 51 includes the elements a reader to read a code carried by an array unit and a processor which causes the detector system to detect emitted light at a detection angle based on read code. Applicant states that the Examiner provides no statement that indicates that this element is taught or suggested by the cited references. Applicant states that in the absence of a specific citation of a teaching or suggestion of this element, the cited references fail to make these claims obvious.

Examiner's Response

9. All of the arguments have been thoroughly reviewed and considered but are not found persuasive for the reasons that follow: In response to Applicant's arguments that none of the cited references capable of scanning biopolymeric arrays, it is noted that the limitation "for scanning arrays of multiple features of different biopolymeric moieties" is a recitation of intended use. MPEP states a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably

distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In regards to Applicant arguments that Roustaei fails to teach or suggest a processor that causes the detector system to detect emitted light at a detection angle or a reader or read a code carried by an array unit, it is noted that Roustaei does teach wherein the device comprises a scanner, reading device and processor which functions to decode and read symbols having a wide range of features and processing said symbols (see col. 3 to col. 5 and abstract). It is further noted however as discussed in the prior office action that the Courts have established that merely using a computer to automate a known process does not by itself impart nonobviousness to the invention (see *In re Venner*, 262 F.2d 91, 95, 120 USPQ 193, 194 (CCPA 1958)). The Courts have established that if the difference between the prior art and the claimed invention is limited to descriptive material stored on or employed by a machine having no functionally related to the substrate, the descriptive material will not distinguish the invention from the prior art in terms of patentability. Neither Applicant's specification nor claims have described or disclosed how the reader and processor, which are part of the computer scanner device, impart functionality to the device. While it is noted that Applicant argues that the reader and processor impart functionality (page 6, 4th paragraph of arguments), the examiner maintains that the specification as filed does not support the claimed arguments. Therefore, in view of the foregoing, the rejections under 35 USC 103 are maintained.

New Ground(s) of Rejections

THE NEW GROUND(S) OF REJECTIONS WERE NECESSITATED BY APPLICANT'S AMENDMENT OF THE CLAIMS:

Claim Rejections - 35 USC § 112

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. Claims 32, 38, 43, and 47 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amendment to the claims 32, 38, 43 and 47, wherein the claims recites "biopolymeric moieties" and "biopolymeric features of the array" is not supported by the specification as originally filed. Applicant cites the specification at pages 1, lines 4-6 and page 6, lines 1-3. However, nowhere in the cited support is there any teaching, which discloses "biopolymeric moieties" or "biopolymeric features of an array". In fact, it cannot be clearly determined what these moieties or features encompass. Further, no recitation of the term or suggestion of the terms could be found anywhere in the specification. Based on the lack of support for the claimed invention, the specification would not have suggested to the skilled artisan that the Applicant was in possession of the claimed invention as of the filing date of the application.

12. Claim 32 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amendment to the claim 32, wherein the claim recites, "wherein each detector of the detection system detects light of different wavelength" is not supported by the specification as originally filed. Applicant cites the specification at pages 1, lines 4-6 and page 6, lines 1-3. However, nowhere in the cited support is there any teaching, which discloses such limitation as recited above. Further, no recitation of the terms or suggestions of the terms could be found anywhere in the specification. Based on the lack of support for the claimed invention, the specification would not have suggested to the skilled artisan that the Applicant was in possession of the claimed invention as of the filing date of the application.

Conclusion

13. No claims are allowed.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia B. Wilder, Ph.D. whose telephone number is (571) 272-0791. The examiner works a flexible schedule and can be reached by phone and voice mail. Alternatively, a request for a return telephone call may be emailed to cynthia.wilder@uspto.gov. Since email communications may not be secure, it is suggested that information in such request be limited to name, phone number, and the best time to return the call.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on (571) 272-0782. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.